

## R&amp;D PROJECT CARD

Rewritten Project

REPORT CONTROL SYMBOL  
DD-R&D/A/110

5

1. PROJECT TITLE (UNCLASSIFIED Title) a. PERSONNEL  
OPERATIONS SUBSYSTEM FOR THE ADVANCED RECONNAISSANCE  
SYSTEM (SYSTEM 117L) b. (SYSTEM 117L POSS)

SECURITY OF PROJECT

SECRET

4. INDEX NUMBER

2-117

3. PROJECT NO.

8728

5. EFFECT DATE

2 April 1957

7A. TECH. ORL

6. BASIC FIELD OR SUBJECT

Strategic Air Warfare System  
(117L)

7. SUB FIELD OR SUBJECT SUB GROUP

Personnel Utilization, 65

8. COGNIZANT AGENCY Air Research and  
Development Command Western Dev. Div.

9. DIRECTING AGENCY

AFPTRC

10. REQUESTING AGENCY

Hq USAF

12. CONTRACTOR AND/OR LABORATORY

Lockheed Aircraft Corp  
Office for QPRI  
Maintenance Laboratory  
Operator Laboratory  
Personnel Laboratory

CONTRACT/W.O. NO.

AF04(647)-97

11. PARTICIPATION AND/OR COORDINATION

AMC (I) ACIC-I  
APGS (I) USN/CND-I  
ATC (I) USA/C/S-I  
SAC (I) Other AEC-P  
ADC (I)  
CIA (I)

13. RELATED PROJECTS

WS-117L

17. EST. COMPLETION DATES

REL.

DEV. Dec 1960

TEST

OP. EVAL.

18. FY FISCAL ESTIMATES

56	.2M
57	22.8M
58	156.0M
59	164.0M
60	124.0M
Total	457.0M

19. REPLACED PROJECT CARD AND PROJECT STATUS

This rewritten report supersedes New Project Report on this  
project dated 28 February 1956

20. REQUIREMENT AND/OR JUSTIFICATION

Requirement for this project was established by ARDC System Requirement No. 5, dated 17 October 1955, which directed this Center to support the preparation of a System Development Plan. Responsibility for technical support in the execution of the WS 117L Development Plan was assigned under the provisions of ARDC System Development Directive No. 117L, dated 17 August 1956. Specific approval for inclusion of project for development of Qualitative Personnel Requirements information (QPRI) was contained in Amendment No. 2 to SDD No. 117L, dated 1 October 1956. ARDC Project Development Directive No. 8728, October 1956, directed implementation of this Center's plan for development of QPRI (Project Development Plan No. 8728, dated 28 February 1956) for WS 117L. Requirement for re-writing the original plan for development of QPRI for WS 117L was established as a result of two separate actions. First: the Weapon System Project Office (WDD) directed each Center concerned with the development of WS117L to rewrite project development plans to align objectives in consonance with the Statement of Work which was prepared recently for contractual negotiations, reference 211(7). Second: the application of existing research techniques in the areas of job analysis and description, training programming, training equipment requirements and evaluation will provide valuable support to the development of the personnel sub-system of WS117L. This project is designed to yield optimum information needed by planning agencies concerned with the personnel and training aspects of weapon system 117L.

22. OASD (R&amp;D)

SN.

CN.

C.

X.

I.

C.

DD FORM 613

REPLACES DD FORM 613,  
1 JAN 52, WHICH MAY BE USED.

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(UNCLASSIFIED Title) a. PERSONNEL OPERATIONS SUBSYSTEM FOR THE ADVANCED RECONNAISSANCE SYSTEM (SYSTEM 117L), b. (SYSTEM 117L POSS)

**21a. Brief of Project and Objective:**

The development of this project will utilize the technical and operational capabilities of the Air Force Personnel and Training Research Center in the production of systematic information relevant to the personnel and training requirements of the total weapon system 117L development plan.

**21b. Approach:**

This project will require both contract and inservice efforts to facilitate correlation between personnel subsystem development and equipment development. Initially, great reliance will be placed upon the prime contractor to develop and systematically integrate information derived from conceived equipment design. Information will be prepared by the contractor with consultative and technical monitoring effort on the part of the AFPTRC project officer. Contract work in support of task efforts and in-service effort are indicated below.

**21c. Tasks of the Project:**

**(1) Task 87151-IMPLICATIONS OF DESIGN.**

(a) Contractor: Work under this task will be accomplished primarily by the prime contractor, with consultative and technical guidance furnished by Project Officer, this Headquarters.

(b) Objective: To provide the preliminary data needed to prepare an early report, or reports, which will forecast the general personnel subsystem requirements and the personnel and training problems that adoption of the system may generate.

(c) Approach: Since this weapon system does not readily lend itself to the concept of control by a major air command or primary interest by a single agency of the Air Force, consideration will be given to the thorough exploration of the personnel implications under various operating-controlling conditions. Basically, the report(s) will attempt to define problems which will be generated by both operational plans and equipment design. In so doing, consideration will be given to the relationship of WS-117L to WS-107A-1 and possibly WS-107A-2 and the findings of previous research in support of these latter systems.

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(2) Task 87300-QUALITATIVE PERSONNEL REQUIREMENTS INFORMATION.

(a) Contractor: Data will be collected and assembled by the prime contractor for the production of reports which will be phased with equipment design and development.

(b) Objective: To provide manning document information, position descriptions, and personnel selection information regarding the total personnel subsystem of WS117L.

(c) Approach: Effort in this area will be directed toward the development of information which can be used to describe technical jobs associated with the operation and maintenance of the system. From these descriptions, forecasts of required skills and knowledges will be made. Early identification of skills and knowledges and subsequent classification, if possible, within the Air Force personnel system will permit forecast of training requirements. Information derived in the development of the foregoing area will be used for manning information when operational and maintenance concepts are stabilized

The QPRI report will comprise four sections: General Information, Manning Document Information, Training Equipment Requirements Information, and Information on Special Problem Areas. The format of the report will be patterned after AFPTRC QPRI reports which have been published for ballistic missile systems.

Section one, General Information, will describe the general purpose and function of the system, as well as stated or assumed concepts of operation and maintenance.

Section two, Manning Document Information, will: identify all equipment-associated operator and maintenance positions; indicate tasks performed within each job-position; indicate skill levels required for those positions requiring new personnel skills; and reference Air Force specialties which most nearly identify the job-positions.

Section three, Training Equipment Requirements Information, will identify in general terms the special training devices which will be needed to impart new skills required for the operation and maintenance of the weapon system. Further action in this area is defined in a subsequent task.

Section four, Special Problem Areas, will include an expansion of the problem areas (identified in the "Implications of Design" report) which can be isolated under a specific set of conditions. This portion of the report will identify personnel problems of an organizational and/or command nature.

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(3) Task 87152-TRAINING PROGRAMS AND PROCEDURES.

(a) Contractor: None.

(b) Objective: To make recommendations for the training program and training procedures to be used to obtain skills required by operator and maintenance personnel of the system.

(c) Approach: Recommendations for specific training procedures will be made in consonance investigative findings from prior tasks. Emphasis will be given to those areas in which the training of skills may prove particularly significant and difficult.

(4) Task 87153-TRAINING EQUIPMENT CHARACTERISTICS.

(a) Contractor: Preparation of a report on the training characteristics of required trainers will be an in-service effort. Previous contractual efforts will be used, if applicable.

(b) Objective: To identify the special training devices required for the WG-117L training program and define the characteristics of the individual trainers.

(c) Approach: Consideration will be given to the adaptation and/or modification of research instruments into prototype training devices. Also, attention will be given to the possible use and/or adapting of special training devices, developed for the ballistic missile training program, which possess characteristics identified by this task effort, e.g., Radar Tracking and Guidance Computer Trainer.

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(5) Task 87154-PROFICIENCY TEST DEVELOPMENT.

(a) Contractor: To be determined. Partial in-service effort by Personnel and Maintenance Laboratories monitored by this Headquarters.

(b) Objective: To provide valid tests of the job knowledge, skill, and achievement variety for measuring the progress and/or proficiency of operating and maintenance personnel.

(c) Approach: This activity will consist essentially of establishing, monitoring and evaluating the test materials to be produced on a contract basis.

(6) Task 87155-HANDBOOKS AND JOB AIDS

Further detail on this task will be provided as the system progresses.

(7) Task 87156-TRAINING EQUIPMENT TESTING

Further detail on this task will be provided on this task as system development progresses.

2ld. Other Information.

(1) General. The information basic to the preparation of reports required by Task 87151 and Task 87300 efforts will be obtained through contractual effort. Publication of these reports on a contractual basis may be accomplished with this Headquarters acting in a consultative and monitoring capacity. It is anticipated that contract funds in the amount indicated in ARDC Form 110 will be programmed through funding action to be taken by the Weapon System Project Office for WS 117L.

Tasks 87152, 87153, 87154, 87155, and 87156 have been included under the assumption that Tasks 87151 and 87300 will produce information which indicates further effort should be expended to meet an Air Force requirement for information in the areas covered by these tasks. However, further development effort will not be expended in those task areas in which the associated final activities are purchased by the Air Force as a contract-service, e g. Task for development of handbooks and job aids will not be undertaken if it is determined manning on a contractual basis is required or desired.

(2) Survey of Existing Standardize Equipment or Techniques.

Note except as discussed in Task 87152 and Task 87153.

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(3) Survey of Similar Equipment in Progress of R&D.

Survey will be made to determine possible adaptation of research instruments into special training devices. Similar exploration will be made in the area of trainers being developed for ballistic missile systems.

(4) Replacement Recommendations. None.

(5) Statement of Effects.

This project will yield information useful to the agencies responsible for programming the personnel and training programs required to properly man WS 117A.

21e. Background History and/or Progress.

Since the writing of the initial project card, several visits have been made to WSPO to determine funding status and to obtain general information on status of system development. As previously mentioned, representatives from this Center participated in preparation of statement of work for contractual negotiations. WSPO clearance was obtained to make initial contacts at contractor facility to discuss development plan relevant to the personnel subsystem. System contractor personnel were familiarized with the QPRI program and the nature of tasks involved in the development plan for personnel and training problems. Visit to contractor revealed that competent staffing has been accomplished to perform the caliber of work desired. Arrangements have been made to furnish contractor with format guides for reports to be published under this development project.

21f. Future Plans. Tentative arrangements were discussed with prime contractor for publication of Task 87151 report during June 1957. Also discussed were plans for publication of initial QPRI report (Task 87300) during December 1957 or early January 1958.

The project officer will maintain close contact with WSPO to establish proper phase relationships of project effort with equipment development status which is, in turn, largely dictated by funding action.

21g. References.

- (1) ARDC System Requirement No. 5, dated 17 October 1955.
- (2) Project Development Plan No. 8728 (DD Form 613), 28 February 1956.
- (3) WS 117L Development Plan (WDD), 2 April 1956.

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(4) ARDC System Development Directive No. 117L, 17 August 1956.

(5) Amendment No. 2 to ARDC SDD No. 117L, 1 October 1956.

(6) Project Development Directive No. 8728, October 1956.

(7) Letter WDTR, Hq ARDC, 18 December 1956, subject, "Meeting of Technical Advisors to WS 117L".

21h. Coordination and Signature Block.

Responsible Center, AFPTRC.

*Stan Roberts* *LC*  
for STANLEY VALCIK  
Major USAF  
QPRI Project Officer

*Thomas Wildes*  
THOMAS WILDES  
Col USAF  
DCS/Operations

*Fred C. E. Oder*  
FREDERIC C. E. ODER  
Colonel, USAF  
Assistant for WS 117L  
Technical Operations (WDD) *OK*

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<b>1. R &amp; D MANPOWER ANNEX</b> <input type="checkbox"/> SYSTEM <input checked="" type="checkbox"/> PROJECT <input type="checkbox"/> TASK <input type="checkbox"/> OTHER							<b>2. REPORTS CONTROL SYMBOL</b>  PAGE 1 OF 1 PAGES <b>3. DATE</b> 2 April 1957 <b>6. NUMBER</b> 8728		
<b>4. UNCLASSIFIED TITLE</b> <b>5. PERSONNEL OPERATIONS SUBSYSTEM FOR THE</b> ADVANCED RECONNAISSANCE SYSTEM (SYSTEM 117L) <b>b. (SYSTEM 117L POSS)</b>					<b>5. INITIAL</b> <input type="checkbox"/> CHANGE #2				

  

7. ORG COMP CODE	8. ORGANIZATION TITLE	9. TYPE ORG	10. ACTUAL MAN-QTRS LAST QTR	11. PROJECTED DIRECT MAN-YEARS						
				FY 19 57		FY 19 58		FY 19 59	FY 19	TO COMPL
				AVAL	RQRD	AVAL	RQRD	RQRD	RQRD	RQRD
PTQ	Office for QPRI	R	.3	.9	2.2	.2	.4	3.5		
PTF	Operator Laboratory	R	#	.2	.3	.2	.4	1.6		
PTR	Maintenance Laboratory	R	#	1.5	1.5	3.8	3.8	4.8		
FTS	Office for Social Science Programs	R	#				.5			
	Total Manpower		.3	2.6	4.0	4.2	5.1	9.9		
	Total Estimated Manpwr Dollars		1M	21M	34M	36M	43M	84M		

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CONTRACT FUNDS ANNEX <input type="checkbox"/> SYSTEM <input checked="" type="checkbox"/> PROJECT <input type="checkbox"/> TASK <input type="checkbox"/> OTHER					2. REPORTS CONTROL SYMBOL PAGE 1 OF 1 PAGES 3. DATE 12 April 57 6. NUMBER 8728			
4. TITLE (UNCLASSIFIED Title) a. PERSONNEL OPERATIONS SUBSYSTEM FOR THE ADVANCED RECONNAISSANCE SYSTEMS (SYSTEM 117L) b. (SYSTEM 117L QPRI)					5. INITIAL <input type="checkbox"/> CHANGE #1			
7. ABBREVIATED TITLE	8. SYSTEM PROJECT OR TASK NUMBER	9. BUDGET PROJECT SERIES	10. PRIOR YEARS (in thousands)	11. FY 57 (in thousands)	12. FY 58 (in thousands)	13. FY 59 (in thousands)	14. FY 60 (in thousands)	15. TO COMPLETION (in thousands)
System 117L QPRI	8728			12.8M	156.0M	144.0M	81.0M	
16. TOTAL				12.8M	156.0M	144.0M	81.0M	

☐ SYSTEM ☒ PROJECT ☐ TASK ☐ OTHER

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5. INITIAL ☐  
CHANGE ☐

ITEM		A. PREVIOUS YEARS		C. FISCAL YEAR 57		D. FISCAL YEAR 58		E. FISCAL YEAR 59		F. TO COMPLETE	
		600	OTHER	600	OTHER	600	OTHER	600	OTHER	600	OTHER
7.	A. TOTAL			12.8M		156.0M		144.0M		81.0M	
CONTRACT	B. AVAILABLE										
	C. NEW REQ			12.8M		156.0M		144.0M		81.0M	
8.	A. TOTAL										
	B. AVAILABLE										
	C. NEW REQ										
9.	FACILITIES										
10.	MANPOWER			10M	11M	14M	20M	20M	23M	40M	44M
11.	TRAINING										
12.	TEST ITEMS										
13.	TEST SUPPORT AIRCRAFT										
14.	SUBTOTAL			12.8M		156.0M		144.0M		81.0M	
15.				22.8M	11M	170M	20M	164M	23M	124M	44M